

**Notice of Allowability**

Application No.

10/687,655

Applicant(s)

KOYAMA, JUN

Examiner

Prabodh M. Dharja

Art Unit

2629

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07-02-2007.
2. ☒ The allowed claim(s) is/are 2--6, 10, 11, 14, 15, 18, 19, 21-24 and 26.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>07-24-07</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                   | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other _____  |

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1. **Status:** please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted 07-02-2007 under amendments, and faxed on 09-27-2007 to do examiner amendments, which have been placed of record in the file. Claims 2-6,10,11,14,15,18,19,21-24 and 26 are pending are pending in this office action. Claims 1,7-9,12,13,16,17,20 and 25 are cancelled.

***Response to Amendment***

2. Applicant has amended independent claim 2 with claims limitations to overcome prior art rejection mailed on 03-29-2007 and cancelled claim 25. The amendments do not introduce any new matter into the disclosure. The added material is supported by the original disclosure.

3. The affidavit filed on 07-02-2007 under 37 CFR 1.132 is sufficient to overcome the Koyama (U.S. 2003/0063077 A1) reference.

4. Applicant has agreed to do examiner's amendments to independent claim 6 adding allowable limitations of the independent claim 2 to overcome prior art rejection. The applicant has amended independent claim 2, with allowable limitations and cancelled claim 25 to overcome non-finality of rejection mailed on 03-29-2007. Applicant's arguments, see Remark, filed 07-02-2007, with respect to amended independent Claim 2, regarding "a display device comprising a charge pump control circuit formed over the substrate, which controls the charge pump circuit, the charge pump control circuit comprising: a variable frequency-dividing circuit formed over the substrate; and a processing circuit formed over the substrate, which controls the variable frequency-dividing circuit; the variable frequency-dividing circuit comprises a plurality

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of dividing circuits formed over the substrate; a plurality of switches electrically connected to the plurality of dividing circuits; and a decoder for controlling the plurality of switches” are persuasive; and with the examiner amendments after further extensive search in PG PUB, prior art and consideration does overcome prior art rejection and cited prior arts in 892’s and 1449’s; which puts the application number 10687655 in condition for allowance.

#### **EXAMINER’S AMENDMENT**

5. An examiner’s amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner’s amendment was given in a personal telephone interview with applicant’s representative Robert L. Pilaud on 09-27-2007.

The application has been amended as follows:

#### **In the Claims**

Claim 4, Line 1, after word “to” please delete “claim 3” and add “claim 2”.

Claim 4, Line 2, after word “by” please delete “a CPU” and add “the processing unit”.

Claim 5, Line 1, after word “to” please delete “claim 4” and add “claim 2”.

Claim 4, Line 2, after word “by” please delete “the CPU is comprised of” and add “the processing circuit comprises”.

Claim 6, amended as following:

Claim 6 (amended) A display device comprising:

a pixel portion comprising a plurality of pixels formed over a substrate;

**a charge pump circuit;**

**a charge pump control circuit formed over the substrate, which controls the charge pump circuit, the charge pump control circuit comprising:**

a variable frequency-dividing circuit ~~comprising~~ **including** a first thin film transistor formed over the substrate, **the variable frequency-dividing circuit comprising:**

**a plurality of dividing circuits formed over the substrate;**

**a plurality of switches electrically connected to the plurality of dividing circuits; and**

**a decoder for controlling the plurality of switches;** and a CPU

comprising a second thin film transistor formed over the substrate, wherein the variable frequency-dividing circuit is controlled by the CPU,  
and

wherein a dividing ratio is varied according to a display mode.

*Allowable Subject Matter*

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6. Claims 2-6,10,11,14,15,18,19,21-24 and 26 are allowed.

7. The following is an examiner's statement of reasons for allowance:

The applicant has amended independent claim 2, with allowable limitations and cancelled claim 25 to overcome non-finality of rejection mailed on 03-29-2007. Applicant has agreed to do examiner's amendments to independent claim 6 adding allowable limitations of the independent claim 2 to overcome prior art rejection. The affidavit filed on 07-02-2007 under 37 CFR 1.132 is sufficient to overcome the Koyama (U.S. 2003/0063077 A1) reference. Applicant's arguments, filed on 07-02-2007 on page 7, last paragraph and page 8, first paragraph, are convincing. As argued by applicant in remarks under claim rejection page 8, paragraph 2, the prior art of Yanagi et al. (US 2002/0036636 A1) in view of Nanno et al. (US 6,909,413 B2), Tanaka (US 2001/0026835 A1) and all the cited prior arts in PGPUB, 892's and 1449's fail to recite or disclose the uniquely distinct features of the independent claims limitations below with combination of all other limitations of independent claims recited:

**a pixel portion comprising a plurality of pixels formed over a substrate; a charge pump control circuit formed over the substrate, a variable frequency-dividing circuit including a first thin film transistor formed over the substrate, a plurality of switches electrically connected to the plurality of dividing circuits; and a decoder for controlling the plurality of switches; and a CPU comprising a second thin film transistor formed over the substrate, wherein the variable frequency-dividing circuit is controlled by the CPU, and wherein a dividing ratio is varied according to a display mode.**

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 571-272-7668.

The examiner can normally be reached on M-F 8AM to 5PM.

9. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

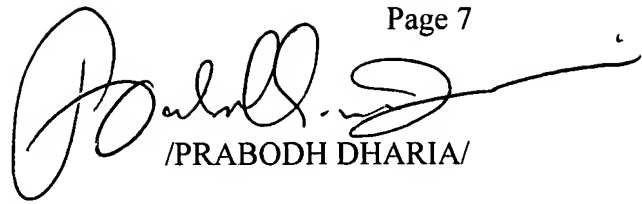
Commissioner of Patents and Trademarks

Washington, D.C. 20231

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/PRABODH DHARIA/

Prabodh Dharia

AU2629

Full Signatory Authority Program

09-27-2007